Natural Sciences and Engineering Research Council of Canada

2017–18

Departmental Plan

The Honourable Kirsty Duncan, P.C., M.P.,
Minister of Science

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Minister's Message

Our 2017–18 Departmental Plan provides parliamentarians and Canadians with information on what we do and the results we are trying to achieve during the upcoming year. To improve reporting to Canadians, we are introducing a new, simplified report to replace the Report on Plans and Priorities.

The title of the report has been changed to reflect its purpose: to communicate our annual performance goals and the financial and human resources forecast to deliver those results. The report has also been restructured to tell a clearer, more straightforward and balanced story of the actual results we are trying to achieve, while continuing to provide transparency on how tax payers' dollars will be spent. We describe our programs and services for Canadians, our priorities for 2017–18, and how our work will fulfill our departmental mandate commitments and the government's priorities.

The programs of the Natural Sciences and Engineering Research Council are central to delivering Canada's Innovation Agenda—a whole-of-government initiative to position Canada as a global centre for innovation, create better jobs and opportunities for the middle class, drive growth across all industries and improve the living standards of all Canadians. Through support for researchers and students in the natural sciences and engineering, and collaboration with innovative businesses, the Council enriches the culture of scientific discovery in Canada, supports innovation, and contributes to the integration of scientific considerations in our investment and policy choices.

It is my pleasure to present the Departmental Plan for the Natural Sciences and Engineering Research Council for 2017–18.

The Honourable Kirsty Duncan
Minister of Science

Plans at a glance

In its 2015-20 Strategic Plan, NSERC 2020, the Natural Sciences and Engineering Research Council of Canada (NSERC) identified five goals to position Canada as a global leader in strengthening the dynamic between discovery and innovation for the societal and economic benefit of Canada. The following five strategic goals are primarily the basis upon which NSERC has established its Departmental Plan for 2017-18:

- **Fostering a science and engineering culture in Canada**
  NSERC takes on a national leadership role for science and engineering promotion in Canada by expanding partnerships with likeminded organizations to support Science Odyssey and Science Literacy Week. NSERC will promote the sharing of best practices amongst science promotion stakeholders, and promote increased recognition and involvement of the academic community in science and engineering outreach activities.

- **Launching the new generation**
  NSERC will explore opportunities for young investigators to launch independent research careers in academia and industry. In addition, NSERC will continue to support the development of highly qualified people who are "marketplace-ready" in the natural sciences and engineering.

- **Building a diversified and competitive research base**
  To build a diversified and competitive research base, NSERC will:
  - continue to explore mechanisms and approaches to ensure the Discovery Programs provide opportunities for a broad base of researchers.
  - increase the number of academic researchers partnering with companies, and explore new ways for young investigators to advance their careers through the Research Partnerships Programs.
  - continue the implementation of its Framework on Gender Equity and host the 2017 North American Gender Summit in November 2017.
  - initiate an analysis on how its programming can be optimized to better support indigenous people at the undergraduate, graduate and postdoctoral levels.

- **Strengthening the dynamic between discovery and innovation**
  NSERC will develop tools to gather information about innovation impacts and knowledge translation activities stemming from the Discovery Programs.

- **Going global**
  - NSERC will launch and fund a fourth Discovery Frontiers initiative that will capitalize on emerging opportunities where Canada can benefit from its world-class capacity to take a leadership role in key areas of research and innovation.

The new initiative will address national research priorities and global challenges, and will involve international collaborators.

- NSERC will implement changes that broaden the scope of organizations that are eligible partners in funded projects. This will help attract international companies and better involve public organizations (like cities and utilities) that are key markets for Canadian innovators.
- NSERC will also host the 6th Annual Meeting of the Global Research Council in May 2017 in Ottawa. Council members will focus on two themes: capacity building among global science funders and the dynamic interplay between discovery and innovation.

In addition to these strategic goals, NSERC will continue its efforts to improving online systems and business processes for the adjudication, funding and reporting of grants, while minimizing the burden on the research community. In preparation for the migration to the new information infrastructure expected in the coming years, NSERC will, in partnership with the Social Sciences and Humanities Research Council of Canada (SSHRC), implement department-wide modernization and transformation initiatives to support programs, which include streamlining business process and improving access to information.

NSERC will continue implementing its People Strategy for 2016-20. This will include ongoing attention to issues of workplace wellness and mental health, as well as NSERC's participation in the Public Service Employee Survey (PSES) 2017.

For more information on the Natural Sciences and Engineering Research Council of Canada's plans, priorities and planned results, see the "Planned results" section of this report

Raison d'être, mandate and role: who we are and what we do

Raison d'être

The Natural Sciences and Engineering Research Council of Canada (NSERC) is a key player in building a culture of scientific discovery and innovation in Canada and in making this country a leader in discovery and innovation. To advance the prosperity and quality of life of all Canadians, NSERC acts as a convener of discovery and innovation partners with a goal of maximizing the value of public investments in science and engineering research.

In today's highly competitive global economy, NSERC plays a central role in supporting Canada's innovation ecosystem. NSERC supports research that benefits all Canadians. By connecting this innovative research to industry through its partnership initiatives, NSERC also makes it easier for the private sector to collaborate with academia and access the wealth of resources Canada's first-rate academic system has to offer.

Canada's future discoverers and innovators can realize their full potential with the support of NSERC's scholarships and fellowships programs, along with funding provided through discovery and partnership awards.

NSERC is also actively working to enhance the profile of Canadian research through national and international promotional activities and by connecting with industry.

Mandate and role

NSERC's vision is to help make Canada a country of discoverers and innovators for the benefit of all Canadians. It invests in People, Discovery and Innovation through partnerships and programs that support post-secondary research in the natural sciences and engineering.

NSERC is a departmental corporation of the Government of Canada created in 1978. It is funded directly by Parliament and reports to it through the Minister of Innovation, Science and Economic Development. NSERC's Council is composed of a President and up to 18 other distinguished members selected from the private and public sectors. NSERC's President is the Chief Executive Officer. The elected Vice-President is the Chair of the Council and of its Executive Committee. NSERC's Council is advised on policy matters by various standing committees. Funding decisions are made by the President, or designate, on the basis of recommendations made by peer review committees.

The functions of NSERC, based on the authority and responsibility assigned to it under the Natural Sciences and Engineering Research Council Act (1976-1977, c.24), are to:

- promote and assist research in the natural sciences and engineering, other than the health sciences; and
- advise the Minister in respect of such matters relating to such research as the Minister may refer to the Council for its consideration.

NSERC supports more than 11,000 of the most creative and productive Canadian university professors, over 30,000 highly qualified postgraduate students and fellows, and partners with about 3,600 Canadian firms to transfer knowledge that creates economic wealth.

For more general information about the department, see the "Supplementary information" section of this report. For more information on the department's organizational mandate letter commitments, see the Minister's mandate letter on the Prime Minister of Canada's website.[i]

Operating context: conditions affecting our work

Information Infrastructure

NSERC offers funding opportunities that provide support to Canadian researchers and students through grants, scholarships and fellowships. On an annual basis, NSERC processes over 18,000 applications, relying on over 10,000 voluntary peer reviewers, to assess funding for researchers, students, and fellows. To ensure the most efficient delivery of its programs, NSERC requires a robust, adaptable information solution that facilitates the process throughout the grant application and award management lifecycle.

To address challenges associated with outdated technologies and inefficiencies resulting from using a number of different IT systems to deliver its funding, NSERC and SSHRC are developing a new grants management system that will offer greater functionality and ease of use for the research community. Until this new system is available, NSERC will continue to rely on existing systems and may not be able to adapt to changes in research priorities, reporting requirements and technology. In light of the critical importance of information infrastructure in delivering programs and tracking results, NSERC and SSHRC have developed joint governance structures to oversee project governance and investment planning and to ensure business continuity.

Responding to changing priorities

During the period of transition of its information infrastructure, NSERC will also need to act on recommendations emerging from Canada's Fundamental Science Review and on direction provided by a new Innovation Agenda. In the context of limited financial and human resource capacity, NSERC may find itself stretched with respect to its ability to respond in a timely manner to changes required in its programs and structures while also continuing to deliver results on its existing commitments.

Key risks: things that could affect our ability to achieve our plans and results

NSERC's risk management framework provides a comprehensive view of corporate risks, and assigns responsibility for their management. Risk management has been fully integrated into the Agency's annual integrated planning cycle.

NSERC's risk identification, assessment and response strategies are closely coordinated with SSHRC in areas of shared responsibility, most notably with regard to finance, human resources, information management and information technology.

NSERC management, in reviewing the evolving changes to its operating environment and the Agency's Corporate Risk Profile, identified two strategic risks that will require a targeted risk response strategy with dedicated resources, monitoring and follow-up.

The two strategic risks impact how NSERC delivers its core mandate and by extension, the research community which benefits from NSERC programs. NSERC's mandate is intrinsic to the Government's innovation agenda. Therefore, NSERC's key risks are important to the Government of Canada and the Canadian public who participate in and benefits from the outcomes of research investments. Management has ascertained that the overall level of risk to the organization is low in terms of continuity of government operations, the maintenance of services to, and protection of interests of the Canadian public, and the safety and security of the Canadian public.

In 2017-18 the Agency will be responding to the results and recommendations of the forthcoming Audit of Integrated Planning and Risk Management.

Key risks

Risks	Risk response strategy	Link to the department's Programs	Link to mandate letter commitments or to government-wide and departmental priorities
The risk that NSERC may face challenges to adjust in a timely way to Government policy decisions resulting from the fundamental science review and Innovation Agenda.	NSERC will work within its existing governance, planning, and priority setting mechanisms to adapt to changing priorities in delivering on the agency's core mandate and NSERC 2020 strategic goals.	Strategic Outcome 1.0 Canada is a world leader in advancing, connecting and applying new knowledge in natural sciences and engineering. 1. People: Research Talent 2. Discovery: Advancement of Knowledge 3. Innovation: Research Partnerships	Minister of Science Mandate Letter[ii]: Examine options to strengthen recognition of, and support for, fundamental research to support new discoveries. Innovation Agenda[iii] Support leading-edge research for innovative and job-creating businesses Results and Delivery[iv] Improving the achievement of results across government and enhancing understanding of the results government seeks to achieve, does achieve, and the resources used Blueprint 2020[v] A world-class Public Service equipped to serve Canada and Canadians now and into the future Workplace Health[vi]: Demonstrate leadership in building a healthy, respectful and supportive work environment with a focus on mental health.
The risk that NSERC, as a small agency, may be limited in its ability to reallocate/utilize resources effectively to meet operational needs and respond to government priorities.	The implementation of the NSERC 2020 strategic plan will continue to involve consultations with external stakeholders to ensure that it remains responsive to Canadian stakeholder needs and aligns with Government priorities. NSERC will assess and prioritize government-wide initiatives to define a resource plan linking project decisions and human/financial resources. NSERC and SSHRC will work together to replace their respective ageing and disparate grants management systems with a shared solution. NSERC will implement its People Strategy Action Plan to ensure that the workforce is well prepared to adapt to change and to promote workplace wellness and mental health.		

Planned results: what we want to achieve this year and beyond

Programs

Program 1.1- People: Research Talent

Description

This Program supports the attraction, retention and development of highly qualified people in the natural sciences and engineering in Canada through Research Chairs Programs, fellowships, scholarships and grants to science promotion organizations. These activities are essential to building the human capital required to enable a strong, globally competitive research and innovation system in Canada. Researchers, students and young people benefit from the grant funding which supports postsecondary university research as well as some outreach activities at universities, museums, science centres, and community-based organizations.

Planning highlights

The NSERC 2020 Strategic Plan sets out two key goals in support of this program:

- foster a science and engineering culture in Canada; and
- launch the new generation of researchers.

The planned results of these two goals, outlined below, align with the mandates given to the Ministers of the Department of Innovation, Science and Economic Development (ISED) through its promotion of science and innovation. These results are also consistent with the overall mandate of the Government through it support of reconciliation with Indigenous Peoples, Inuit and Métis, support the development of science-based public policy and promote economic growth, job creation and prosperity for all.

- **Foster a science and engineering culture in Canada**

  In support of this goal, NSERC will extend its national leadership of science and engineering promotion in Canada. NSERC will expand partnerships with likeminded organizations to support Science Odyssey and the Science Literacy Week, support increased involvement of the academic community in science and engineering outreach activities, and the recognition of such involvement in peer review selection. The evaluations conducted in recent years of PromoScience[vii] and NSERC Prizes offer insights into specific actions to support these funding opportunities in the next few years. For PromoScience, actions include the sharing of best practices amongst science promotion stakeholders, refining the objectives and outcomes, and the reporting on results by grant recipients.

NSERC will also continue to implement the recent additional investments in PromoScience grants, with an increased focus on science teachers and on under-represented groups in science, technology, engineering, mathematics (STEM) fields (i.e., girls and indigenous youth). For the NSERC Prizes, a lesson learned from the evaluation is to implement improved reporting from grant recipients on the impacts of Prize funding.

- A science and engineering culture in Canada must embrace diversity as a condition of research excellence. The management response to the recent Canada Research Chairs Program 15th Year Evaluation[viii], commits to a strategy to promote the adherence to equity targets by universities as soon as possible.

- **Launch the new generation of researchers**

  NSERC will continue to support the development of highly qualified people who are "marketplace-ready" in the natural sciences and engineering. NSERC will support this goal through the Collaborative Research and Training Experience[ix] (CREATE) funding opportunity and will implement lessons learned from the last program evaluation, such as increasing the participation in the program of a more diverse range of postsecondary institutions. The program provides enhanced opportunities for students to develop technical and professional skills, and to gain experience in enriched and varied research environments. It will also continue to facilitate integration of trainees into industrial settings and their international mobility. This aligns with the government priority of helping employers create more co-op placements for students in Science, Technology, Engineering and Mathematics (STEM).

- In November 2017, NSERC will host the 2017 North American Gender Summit[x] and will continue the implementation of its Framework on Gender Equity, aimed at addressing the under-representation of women in STEM.

- NSERC will assess how its programming could better support indigenous people at the undergraduate, graduate and postdoctoral levels. An environment scan will be undertaken to build on best practices and to partner with likeminded organizations.

- Through its scholarship and fellowship funding opportunities, NSERC will promote the development of professional skills for students and fellows.

- An increased emphasis on science promotion, outreach and mentoring activities in research applications will strengthen the recognition for these activities as valid contributions to research and innovation.

Planned results

Expected results	Performance indicators	Target	Date to achieve target	2013–14 Actual results	2014–15 Actual results	2015–16 Actual results
Canada's workforce has the required talented and skilled researchers in natural sciences and engineering.	Total researchers per thousand employed.	8.3	March 2018	8.9	8.9	8.8
	Percentage difference in unemployment rate for occupations in the natural sciences and engineering vs. national unemployment rate.	1%		3.9%	3.9%	3.7%
	Ranking of Canada among G20 countries in terms of number of doctoral degrees earned in the natural sciences and engineering per capita.	15th		6th	6th	7th

Budgetary financial resources (dollars)

2017–18 Main Estimates	2017–18 Planned spending	2018–19 Planned spending	2019–20 Planned spending
$287,882,897	$287,882,897	$278,914,912	$275,328,306

Human resources (full-time equivalents)

2017–18 Planned full-time equivalents	2018–19 Planned full-time equivalents	2019–20 Planned full-time equivalents
45	45	45

Program 1.2- Discovery: Advancement of Knowledge

Description

This Program supports the creation of new knowledge and maintenance of a high quality Canadian broad based research capacity in the natural sciences and engineering through grants to researchers. The advancement of knowledge generated by these grants is necessary to fuel a strong research and innovation system in Canada that is globally competitive. Academic researchers receive funding to carry out research, to support the timely acceleration of research programs, to purchase or develop research equipment, or to facilitate their effective access to major and unique research resources.

Planning highlights

The NSERC 2020 Strategic Plan sets out three key goals in support of this program:

- build a diversified and competitive research base;
- strengthen the dynamic between discovery and innovation; and
- go global.

The planned results of these three goals, outlined below, align with the mandates given to the Ministers of the Department of Innovation, Science and Economic Development (ISED) through its promotion of science and innovation.

- **Build a diversified and competitive research base**
  NSERC will continue to explore mechanisms and approaches to ensure the Discovery Programs[xi] provide opportunities for a broad base of researchers, including those from different institutions, disciplines, populations and sectors. NSERC will also explore ways for young investigators to launch independent research careers, in support of the goal to launch the new generation of researchers. Further to the recommendations of the evaluation of the Discovery Grants program carried out in 2014, NSERC allows early career researchers holding a first discovery grant to extend their awards by one year, before they need to be re-assessed for any future funding. This new option was introduced for the 2017 competition. The eligibility window for early career researchers has been expanded to three years from two years (starting with the 2017 competition), thus enabling more researchers to access additional support at the start of their careers.
- NSERC will continue to review its approach to the allocation of funds for Discovery research across the natural sciences and engineering disciplines. It will do so by responding to the recommendations of the International Advisory Committee which sets the principles by which new funding should be allocated. By periodically examining the allocation of funds between disciplines and across funding opportunities in a systematic manner, NSERC aims to ensure that funding remains effective, dynamic and responsive to changes in disciplines in the Canadian and global research landscape. This is in line with the mandate of the

Minister of Science to examine options to strengthen the recognition of, and support for, fundamental research to support new discoveries.

- **Strengthen the dynamic between discovery and innovation**
  This goal aims to deepen the interactions between colleges and universities, the private sector, governments and civil society. NSERC will develop tools to gather information about innovation impacts and knowledge translation activities stemming from discovery research programs. This aligns with the government-wide priority for improved performance measurement and management.

- **Go global**
  NSERC will launch and fund a fourth Discovery Frontiers[xii] initiative that will capitalize on emerging opportunities where Canada can benefit from its world-class capacity to take a leadership role in key areas of research and innovation. The new initiative will address national research priorities and global challenges, and will involve international collaborators. This is also in line with the goal of supporting a diversified and competitive research base.

- Together with SSHRC and the Canadian Institutes for Health Research (CIHR), NSERC will support world leading multidisciplinary and multinational research through the Canada First Research Excellence Fund[xiii] (CFREF). This funding opportunity helps competitively selected Canadian postsecondary institutions excel globally in research areas that create long-term economic advantages for Canada. In 2017, the agencies will oversee the implementation of 13 new seven-year grants awarded in the second competition. The NSERC funding for this cohort of grants is an average of $90M per year, over seven years.

Planned results

Expected results	Performance indicators	Target	Date to achieve target	2013–14 Actual results	2014–15 Actual results	2015–16 Actual results
Researchers at Canadian universities advance knowledge in the natural sciences and engineering.	Ranking in the per capita output of publications in the natural sciences and engineering vs. G20 countries.	8th	March 2018	2nd	2nd	2nd
	Ranking in the number of natural sciences and engineering publications vs. G20 countries.	9th		11th	11th	11th
	Ranking in terms of average relative citation factor of Canadian publications in the natural sciences and engineering vs.G20 countries.	15th		7th	7th	6th

Budgetary financial resources (dollars)

2017–18 Main Estimates	2017–18 Planned spending	2018–19 Planned spending	2019–20 Planned spending
$522,502,495	$522,502,495	$559,025,804	$561,798,117

Human resources (full-time equivalents)

2017–18 Planned full-time equivalents	2018–19 Planned full-time equivalents	2019–20 Planned full-time equivalents
89	89	89

Program 1.3- Innovation: Research Partnerships

Description

Canada has a global reputation for producing landmark discovery research. With just 0.5% of the world's population, Canadian scientists generate 5% of scholarly publications, many of them being of high impact. In contrast, Canada's reputation lags when it comes to innovation. A successful and vibrant research enterprise should succeed at both and there is a dynamic interchange between discovery and innovation, where discovery sets the foundation for innovation, and innovation often triggers new questions to be answered. Building on strong discovery investments and a track record

of successful academic and industry partnership programs (NSERC works with over 3,600 industrial partners), NSERC will continue to help connect businesses to Canada's world-class research enterprise. These collaborative R&D partnerships help companies grow, enable academic researchers achieve new heights and provide an excellent experiential training environment for students and new researchers.

Planning highlights

- **Results and performance measurement**
  In 2017-18, NSERC will continue to build upon its performance measurement strategy by developing and implementing more robust performance measurement and reporting tools. This includes the ongoing implementation of an online system for end-of-grant reporting from both researchers and partners on collaborative R&D projects. This aligns with the 2016 evaluation on NSERC's Industry-driven Collaborative R&D programs, which recommended developing common metrics for the measurement of impacts.

  The NSERC 2020 Strategic Plan sets out four key goals in support of this program:

  - build a diversified and competitive research base;
  - strengthen the dynamic between discovery and innovation;
  - go global; and
  - launch the new generation of researchers.

  The planned results of these four goals, outlined below, align with the mandates given to the Ministers of the Department of Innovation, Science and Economic Development (ISED) through its promotion of science and innovation.

- **Build a diversified and competitive research base**
  Through its Research Partnerships programs, NSERC will reinforce gender equity approaches, aim to increase the number of academic researchers involved with partners, and explore new ways for young investigators to advance their careers.

- **Strengthen the dynamic between discovery and innovation, and go global**
  NSERC will continue experimenting new approaches to increase the speed and scope of the impacts from the collaborative R&D projects it funds. In 2017-18 NSERC will implement changes that broaden the scope of organizations that are eligible partners in funded projects. This will help attract international companies and better involve public organizations (like municipalities and utilities) that are key markets for Canadian innovators. NSERC will continue to build partnerships with other funders of R&D with a view to scale up funding while reducing administrative burden for researchers and partners to conduct larger research projects.

This is in line with the recommendation from the 2016 evaluation on NSERC's Industry-driven Collaborative R&D programs to maintain the funding opportunities, with better alignment with the needs of academia, industry, and other stakeholders in the research ecosystem.

- **Launch the new generation of researchers**
  NSERC supports the training of 10,000 students per year through industrially relevant research projects and aims to increase this number in the coming year. The Agency will look to enhance its partnership programs to provide more young researchers with relevant industry experience and help them develop market-ready skills. This will support the Government's priority to advance innovation and enhance talent.

Planned results

Expected results	Performance indicators	Target	Date to achieve target	2013–14 Actual results	2014–15 Actual results	2015–16 Actual results
Canada builds more research partnerships between businesses, universities and colleges.	Percentage growth in the number of business partners annually.	5%	March 2018	8.4%	13.2%	2.5%
	Minimum percentage growth in most of the indicators of knowledge/ technology transfer (new and/or improved products/services, enhanced skills/knowledge of partner personnel, invention disclosures, university spin-offs, university licensing revenue, university R&D contract revenue, university patents).	0.5%		Growth exceeds 0.5% in 5 out of 9 indicators	Growth exceeds 0.5% for 4 out of 9 indicators	Growth exceeds 0.5% for 5 out of 9 indicators

Budgetary financial resources (dollars)

2017–18 Main Estimates	2017–18 Planned spending	2018–19 Planned spending	2019–20 Planned spending
$378,552,344	$378,552,344	$375,760,981	$374,386,311

Human resources (full-time equivalents)

2017–18 Planned full-time equivalents	2018–19 Planned full-time equivalents	2019–20 Planned full-time equivalents
150	150	150

Information on NSERC's lower-level programs is available on NSERC's website[xiv] and in the TBS InfoBase.[xv]

Internal Services

Description

Internal Services are those groups of related activities and resources that the federal government considers to be services in support of programs and/or required to meet corporate obligations of an organization. Internal Services refers to the activities and resources of the 10 distinct service categories that support Program delivery in the organization, regardless of the Internal Services delivery model in a department. The 10 service categories are: Management and Oversight; Communications; Legal; Human Resources Management; Financial Management; Information Management; Information Technology; Real Property; Materiel; and Acquisition.

Planning highlights

- **Enhance people management**
  NSERC will continue the implementation of its People Strategy including activities identified in the corporate Employment Equity plan and participation in the Public Service Employee Survey. The Agency will also implement an internal communications strategy that addresses issues emerging from the Public Service Employee Survey (2014) and its new People Strategy (2016-2020), as well as a workplace wellness framework.

- **Establish alignment to, and compliance with government priorities, policy requirements and transformative initiatives**
  NSERC will develop an implementation plan to assess impacts and implement changes related to the Treasury Board of Canada Secretariat's (TBS) Policy Reset Initiative and government-wide transformative initiatives to improve horizontal alignment across functional areas. Within this larger initiative, NSERC will continue an experimental pilot project, working in partnership with postsecondary institutions, to identify ways to use university administrative data as well as data from Statistics Canada to better track the impacts of NSERC-supported students.

- **Modernize information management and Information technology**
  NSERC will, in partnership with SSHRC, implement department-wide modernization and transformation initiatives to support departmental grants management programs, which include streamlining business process to provide for a more user-centric experience and improving adjudication, funding, reporting and access to information processes.

Budgetary financial resources (dollars)

2017–18 Main Estimates	2017–18 Planned spending	2018–19 Planned spending	2019–20 Planned spending
$18,092,409	$18,092,409	$18,036,718	$17,759,278

Human resources (full-time equivalents)

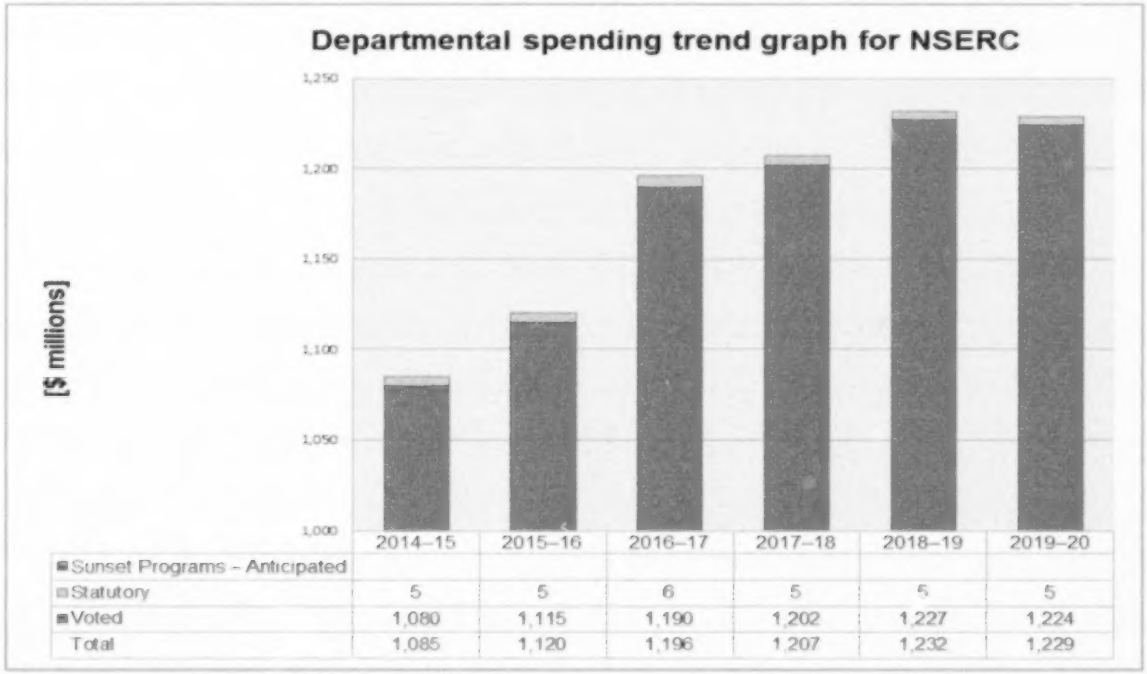
2017–18 Planned full-time equivalents	2018–19 Planned full-time equivalents	2019–20 Planned full-time equivalents
133	133	133

Spending and human resources

Planned spending

Departmental Spending Trend

The "Departmental spending trend graph" presents trends in the agency's planned and actual spending over time.



	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20
Sunset Programs - Anticipated						
Statutory	5	5	6	5	5	5
Voted	1,080	1,115	1,190	1,202	1,227	1,224
Total	1,085	1,120	1,196	1,207	1,232	1,229

Changes from 2014–15 to 2018–19 are mostly due to Budget 2014 for the new Canada First Research Excellence Fund, a tri-agency initiative that helps institutions excel globally in research areas that create long-term economic advantages for Canada.

Increase from 2015-16 to 2016-17 is also due to Budget 2015 to support partnerships between businesses and academic researchers and for the College and Community Innovation (CCI) Program and Budget 2016 to support discovery research in the natural sciences and engineering.

Budgetary planning summary for Programs and Internal Services (dollars)

Programs and Internal Services	2014–15 Expenditures	2015–16 Expenditures	2016–17 Forecast spending	2017–18 Main Estimates	2017–18 Planned spending	2018–19 Planned spending	2019–20 Planned spending
People:Research Talent	$272,162,729	$273,271,214	$291,371,374	$287,882,897	$287,882,897	$278,914,912	$275,328,306
Discovery:Advancement of Knowledge	$417,812,704	$454,997,430	$498,275,634	$522,502,495	$522,502,495	$559,025,804	$561,798,117
Innovation: Research Partnership	$371,301,195	$369,402,138	$385,435,392	$378,552,344	$378,552,344	$375,760,981	$374,386,311
Subtotal	$1,061,276,628	$1,097,670,782	$1,175,082,400	$1,188,937,736	$1,188,937,736	$1,213,701,697	$1,211,512,734
Internal Services	$24,168,828	$17,982,412	$20,103,706	$18,092,409	$18,092,409	$18,036,718	$17,759,278
Total	$1,085,445,456	$1,115,653,194	$1,195,186,106	$1,207,030,145	$1,207,030,145	$1,231,738,415	$1,229,272,012

Planned human resources

Human resources planning summary for Programs and Internal Services (full-time equivalents)

Programs and Internal Services	2014–15 Full-time equivalents	2015–16 Full-time equivalents	2016–17 Forecast full-time equivalents	2017–18 Planned full-time equivalents	2018–19 Planned full-time equivalents	2019–20 Planned full-time equivalents
People:Research Talent	35	43	44	45	45	45
Discovery:Advancement of Knowledge	55	82	85	89	89	89
Innovation: Research Partnership	119	147	145	150	150	150
Subtotal	209	272	274	284	284	284
Internal Services	174	131	133	133	133	133
Total	383	403	407	417	417	417

Estimates by vote

For information on NSERC's organizational appropriations, consult the 2017–18 Main Estimates.[xvi]

Future-Oriented Condensed Statement of Operations

The Future-Oriented Condensed Statement of Operations provides a general overview of NSERC's operations. The forecast of financial information on expenses and revenues is prepared on an accrual accounting basis to strengthen accountability and to improve transparency and financial management.

Because the Future-Oriented Condensed Statement of Operations is prepared on an accrual accounting basis, and the forecast and planned spending amounts presented in other sections of the Departmental Plan are prepared on an expenditure basis, amounts may differ.

A more detailed Future-Oriented Statement of Operations and associated notes, including a reconciliation of the net cost of operations to the requested authorities, are available on NSERC's website.[xiv]

Future-Oriented Condensed Statement of Operations
for the year ended March 31, 2018 (dollars)

Financial information	2016–17 Forecast results	2017–18 Planned results	Difference (2017–18 Planned results minus 2016–17 Forecast results)
Total expenses	1,201,796,762	1,218,356,991	16,560,229
Total revenues	378,779	578,779	200,000
Net cost of operations before government funding and transfers	**1,201,417,983**	**1,217,778,212**	**16,360,229**

Total expenses are expected to increase by 1.4% ($16.4 million). The change is mainly attributable to the expected increase in transfer payment for the Canada First Research Excellence Funds. Operating expenses, including salaries, are expected to remain steady in the next fiscal year.

Total revenue are expected to increase by $0.2 million due to expected partner contributions for two events NSERC will be hosting in 2017-18.

Supplementary information

Corporate information

Organizational profile

Appropriate Minister: **Minister of Innovation, Science and Economic Development:**
The Honourable Navdeep Bains, P.C., M.P.

Minister of Science:
The Honourable Kirsty Duncan, P.C., M.P.

Minister of Small Business and Tourism and Leader of the Government in the House of Commons:
The Honourable Bardish Chagger, P.C., M.P.

Institutional Head: Dr. B. Mario Pinto (President)

Ministerial Portfolio: Innovation, Science and Economic Development

Enabling Instrument(s): Natural Sciences and Engineering Research Council Act[xvii]

Year of Incorporation / Commencement: May 1, 1978

Reporting framework

The Natural Sciences and Engineering Research Council of Canada's Strategic Outcome and Program Alignment Architecture (PAA) of record for 2017–18 are shown below:

1. **Strategic Outcome:**

Canada is a world leader in advancing, connecting and applying new knowledge in natural sciences and engineering.

1.1 1.1 People: Research, Talent

- 1.1.1 Science and Engineering Promotion
- 1.1.2 Scholarships and Fellowships
- 1.1.3 Alexander Graham Bell Canada Graduate Scholarships*
- 1.1.4 Vanier Canada Graduate Scholarships*
- 1.1.5 Banting Postdoctoral Fellowships*
- 1.1.6 Canada Research Chairs*
- 1.1.7 Canada Excellence Research Chairs*

1.2 Discovery: Advancement of Knowledge

- 1.2.1 Discovery Research
- 1.2.2 Research Equipment and Resources
- 1.2.3 Canada First Research Excellence Fund*

1.3 Innovation: Research Partnerships

- 1.3.1 Research in Strategic Areas
- 1.3.2 Industry-driven Collaborative Research and Development
- 1.3.3 Networks of Centres of Excellence*
- 1.3.4 Training in Industry*
- 1.3.5 Commercialization of Research*
- 1.3.6 College and Community Innovation

1.4 Internal Services

*Programs involving more than one granting agency

Supporting information on lower-level programs

Supporting information on lower-level programs is available on NSERC's website[xvii] and in the TBS InfoBase.[xviii]

Supplementary information tables

The following supplementary information tables are available on NSERC's website [xiv].

- Details on transfer payment programs of $5 million or more
- Upcoming evaluations over the next five fiscal years
- Upcoming internal audits for the coming fiscal year

Federal tax expenditures

The tax system can be used to achieve public policy objectives through the application of special measures such as low tax rates, exemptions, deductions, deferrals and credits. The Department of Finance Canada publishes cost estimates and projections for these measures each year in the Report on Federal Tax Expenditures.[xix] This report also provides detailed background information on tax expenditures, including descriptions, objectives, historical information and references to related federal spending programs. The tax measures presented in this report are the responsibility of the Minister of Finance.

Organizational contact information

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Appendix: definitions

appropriation (crédit)

Any authority of Parliament to pay money out of the Consolidated Revenue Fund.

budgetary expenditures (dépenses budgétaires)

Operating and capital expenditures; transfer payments to other levels of government, organizations or individuals; and payments to Crown corporations.

Core Responsibility (responsabilité essentielle)

An enduring function or role performed by a department. The intentions of the department with respect to a Core Responsibility are reflected in one or more related Departmental Results that the department seeks to contribute to or influence.

Departmental Plan (Plan ministériel)

Provides information on the plans and expected performance of appropriated departments over a three-year period. Departmental Plans are tabled in Parliament each spring.

Departmental Result (résultat ministériel)

A Departmental Result represents the change or changes that the department seeks to influence. A Departmental Result is often outside departments' immediate control, but it should be influenced by program-level outcomes.

Departmental Result Indicator (indicateur de résultat ministériel)

A factor or variable that provides a valid and reliable means to measure or describe progress on a Departmental Result.

Departmental Results Framework (cadre ministériel des résultats)

Consists of the department's Core Responsibilities, Departmental Results and Departmental Result Indicators.

Departmental Results Report (Rapport sur les résultats ministériels)

Provides information on the actual accomplishments against the plans, priorities and expected results set out in the corresponding Departmental Plan.

full-time equivalent (équivalent temps plein)

A measure of the extent to which an employee represents a full person-year charge against a departmental budget. Full-time equivalents are calculated as a ratio of assigned hours of work to scheduled hours of work. Scheduled hours of work are set out in collective agreements.

government-wide priorities (priorités pangouvernementales)

For the purpose of the 2017–18 Departmental Plan, government-wide priorities refers to those high-level themes outlining the government's agenda in the 2015 Speech from the Throne, namely: Growth for the Middle Class; Open and Transparent Government; A Clean Environment and a Strong Economy; Diversity is Canada's Strength; and Security and Opportunity.

horizontal initiative (initiative horizontale)

A horizontal initiative is one in which two or more federal organizations, through an approved funding agreement, work toward achieving clearly defined shared outcomes, and which has been designated (e.g. by Cabinet, a central agency, etc.) as a horizontal initiative for managing and reporting purposes.

Management, Resources and Results Structure (Structure de la gestion, des ressources et des résultats)

A comprehensive framework that consists of an organization's inventory of programs, resources, results, performance indicators and governance information. Programs and results are depicted in their hierarchical relationship to each other and to the Strategic Outcome(s) to which they contribute. The Management, Resources and Results Structure is developed from the Program Alignment Architecture.

non-budgetary expenditures (dépenses non budgétaires)

Net outlays and receipts related to loans, investments and advances, which change the composition of the financial assets of the Government of Canada.

performance (rendement)

What an organization did with its resources to achieve its results, how well those results compare to what the organization intended to achieve, and how well lessons learned have been identified.

Performance indicator (indicateur de rendement)

A qualitative or quantitative means of measuring an output or outcome, with the intention of gauging the performance of an organization, program, policy or initiative respecting expected results.

Performance reporting (production de rapports sur le rendement)

The process of communicating evidence-based performance information. Performance reporting supports decision making, accountability and transparency.

planned spending (dépenses prévues)

For Departmental Plans and Departmental Results Reports, planned spending refers to those amounts that receive Treasury Board approval by February 1. Therefore, planned spending may include amounts incremental to planned expenditures presented in the Main Estimates.

A department is expected to be aware of the authorities that it has sought and received. The determination of planned spending is a departmental responsibility, and departments must be able to defend the expenditure and accrual numbers presented in their Departmental Plans and Departmental Results Reports.

plans (plans)
The articulation of strategic choices, which provides information on how an organization intends to achieve its priorities and associated results. Generally a plan will explain the logic behind the strategies chosen and tend to focus on actions that lead up to the expected result.

Priorities (priorités)
Plans or projects that an organization has chosen to focus and report on during the planning period. Priorities represent the things that are most important or what must be done first to support the achievement of the desired Strategic Outcome(s).

program (programme)
A group of related resource inputs and activities that are managed to meet specific needs and to achieve intended results and that are treated as a budgetary unit.

Program Alignment Architecture (architecture d'alignement des programmes)
A structured inventory of an organization's programs depicting the hierarchical relationship between programs and the Strategic Outcome(s) to which they contribute.

results (résultats)
An external consequence attributed, in part, to an organization, policy, program or initiative. Results are not within the control of a single organization, policy, program or initiative; instead they are within the area of the organization's influence.

statutory expenditures (dépenses législatives)
Expenditures that Parliament has approved through legislation other than appropriation acts. The legislation sets out the purpose of the expenditures and the terms and conditions under which they may be made.

Strategic Outcome (résultat stratégique) A long-term and enduring benefit to Canadians that is linked to the organization's mandate, vision and core functions.

sunset program (programme temporisé)

A time-limited program that does not have an ongoing funding and policy authority. When the program is set to expire, a decision must be made whether to continue the program. In the case of a renewal, the decision specifies the scope, funding level and duration.

target (cible)

A measurable performance or success level that an organization, program or initiative plans to achieve within a specified time period. Targets can be either quantitative or qualitative.

voted expenditures (dépenses votées)

Expenditures that Parliament approves annually through an Appropriation Act. The Vote wording becomes the governing conditions under which these expenditures may be made.

Endnotes

i. **The Minister's mandate letter**, http://pm.gc.ca/eng/mandate-letters

ii **Mandate Latter** http://pm.gc.ca/eng/minister-science-mandate-letter

iii **Innovation Agenda** https://www.ic.gc.ca/eic/site/062.nsf/eng/home

iv **Policy on Results** https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=31300&section=context

v **Blueprint 2020** http://www.clerk.gc.ca/eng/index.asp

vi **Workplace Health** http://www.tbs-sct.gc.ca/psm-fpfm/healthy-sain/wwb-mcmt/mhw-mmt/strategy-strategie-eng.asp

vii **PromoScience** http://www.nserc-crsng.gc.ca/Promoter-Promotion/PromoScience-PromoScience/Index_eng.asp

viii **Canada Research Chairs Program Evaluation** http://www.chairs-chaires.gc.ca/about_us-a_notre_sujet/publications/evaluations/chairs_response-chaires_reponse-eng.aspx

ix **Collaborative Research and Training Experience** http://www.nserc-crsng.gc.ca/Professors-Professeurs/Grants-Subs/CREATE-FONCER_eng.asp

x **2017 North American Gender Summit** http://www.nserc-crsng.gc.ca/Media-Media/NewsRelease-CommuniqueDePresse_eng.asp?ID=849

xi **Discovery Programs** http://www.nserc-crsng.gc.ca/Discovery-Decouverte/index_eng.asp

xii **Discovery Frontiers** http://www.nserc-crsng.gc.ca/Professors-Professeurs/Grants-Subs/DF-FD_eng.asp

xiii **Canada First Research Excellence Fund** http://www.cfref-apogee.gc.ca/home-accueil-eng.aspx

xiv **NSERC's website** http://www.nserc-crsng.gc.ca/NSERC-CRSNG/Reports-Rapports/plans-plans_eng.asp

xv. **TBS InfoBase**, https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#start

xvi. **2017–18 Main Estimates**, http://www.tbs-sct.gc.ca/hgw-cgf/finances/pgs-pdg/gepme-pdgbpd/index-eng.asp

xvii. **Natural Sciences and Engineering Research Act** http://laws.justice.gc.ca/eng/acts/N-21/page-1.html#docCont

xviii. **TBS InfoBase**, https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#start

xix. **Report on Federal Tax Expenditures**, http://www.fin.gc.ca/purl/taxexp-eng.asp